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EVERY FORTNIGHT

QUEST

ADVENTURES IN THE WORLD OF SCIENCE

CITIES AND COMMUNITIES 5

FACT FILES ON:

- Buildings for tomorrow
- Population overload
- Power to the people
- Urban parasites
- Getting about town
- The waste cycle
- Animal kingdoms

GIANT POSTER

LLOYD'S OF LONDON

MODEL ILLUMINATED NEW YORK SKYLINE

THREE PROJECTS

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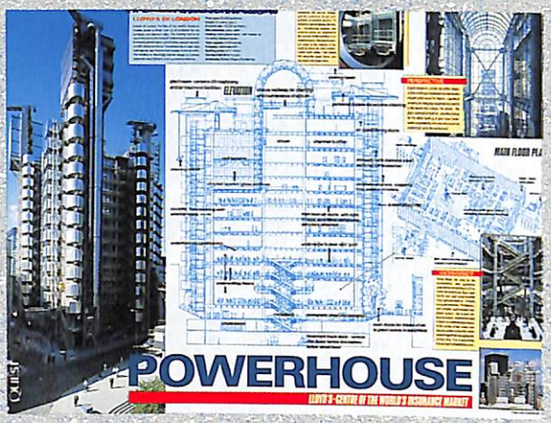
INSIDE THIS PACK

FACT FILES

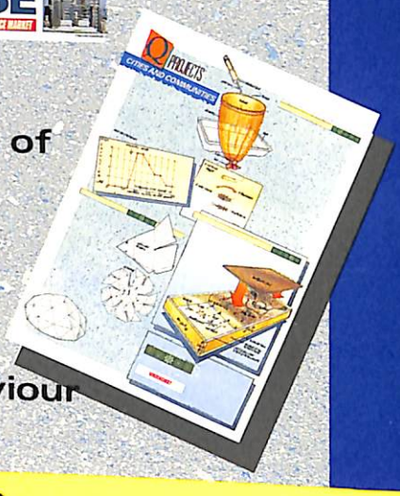
- Animal societies ▶ Population
- Transport ▶ City pests
- Power to the people
- The waste cycle
- Buildings for the future

MODEL Illuminated New York skyline



POSTER

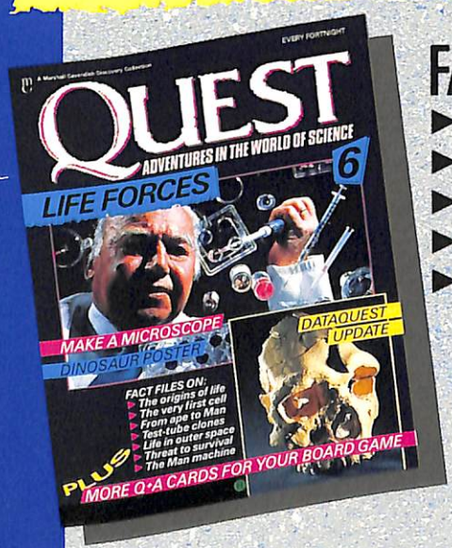
Powerhouse – Lloyd's of London's spectacular building



PROJECTS

- Pollution check
- Observing ant behaviour
- Make a dome

COMING IN *QUEST 6 LIFE FORCES*



FACT FILES INCLUDE

- Test-tube clones
- The evolution of Man
- Living in space ▶ Robots
- Primitive life forms
- Threatened species

POSTER Dinosaurs

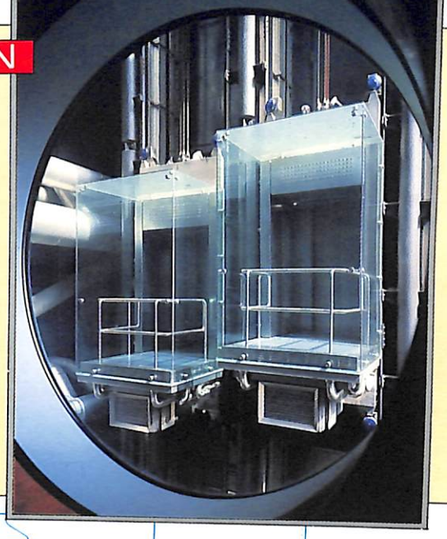
In-Quest question and answer cards

PLUS

DataQuest update

CONSTRUCTION

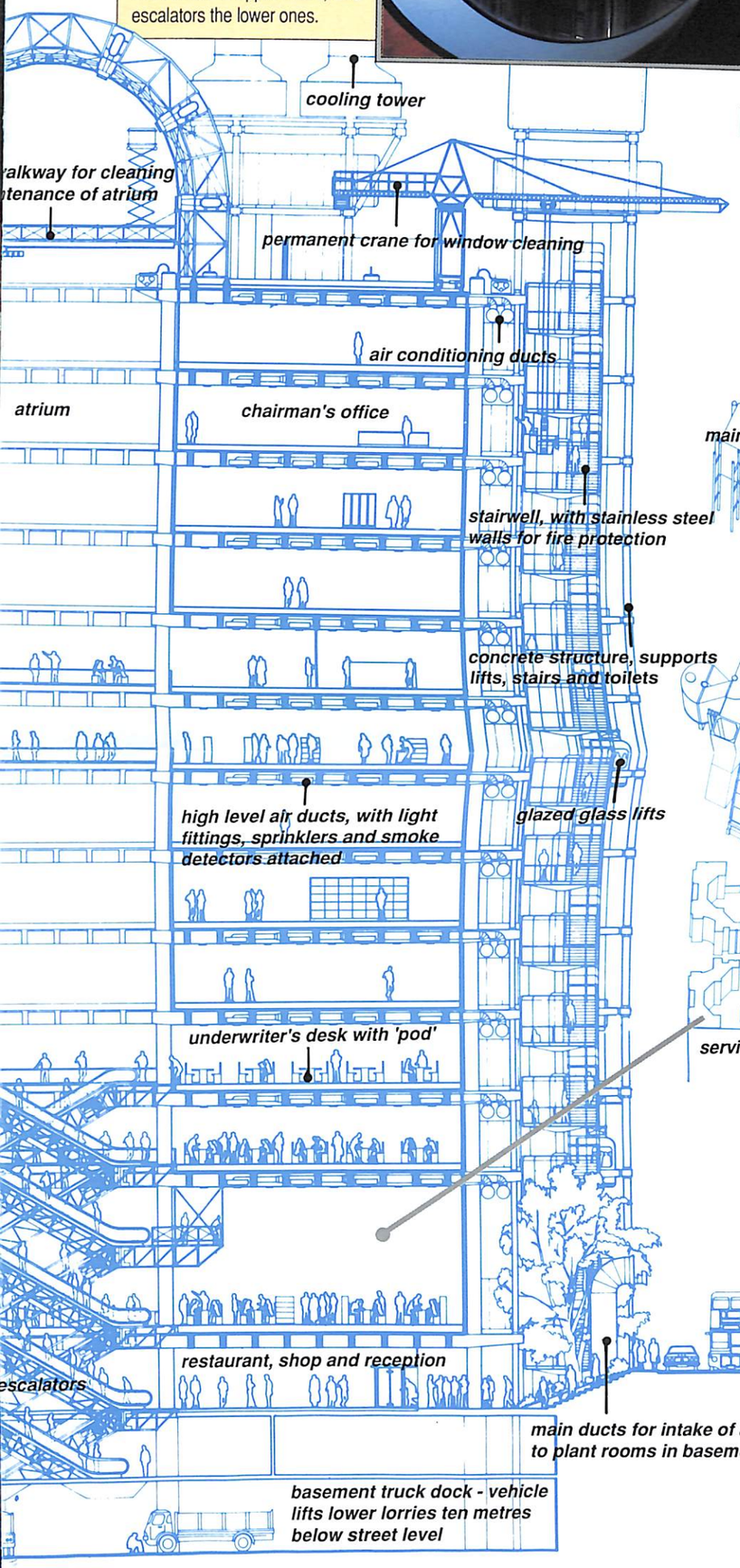
Forty per cent of the building is covered by glass, 30 per cent comprises the service towers, and the remaining 30 per cent consists of external ducting. To minimize wasted space, the lifts, air - conditioning systems and even the toilets are attached to the outside of the building in six satellite towers. Moving the service areas to the exterior of the building allows for large uninterrupted work areas. High-speed lifts serve the upper floors, and escalators the lower ones.

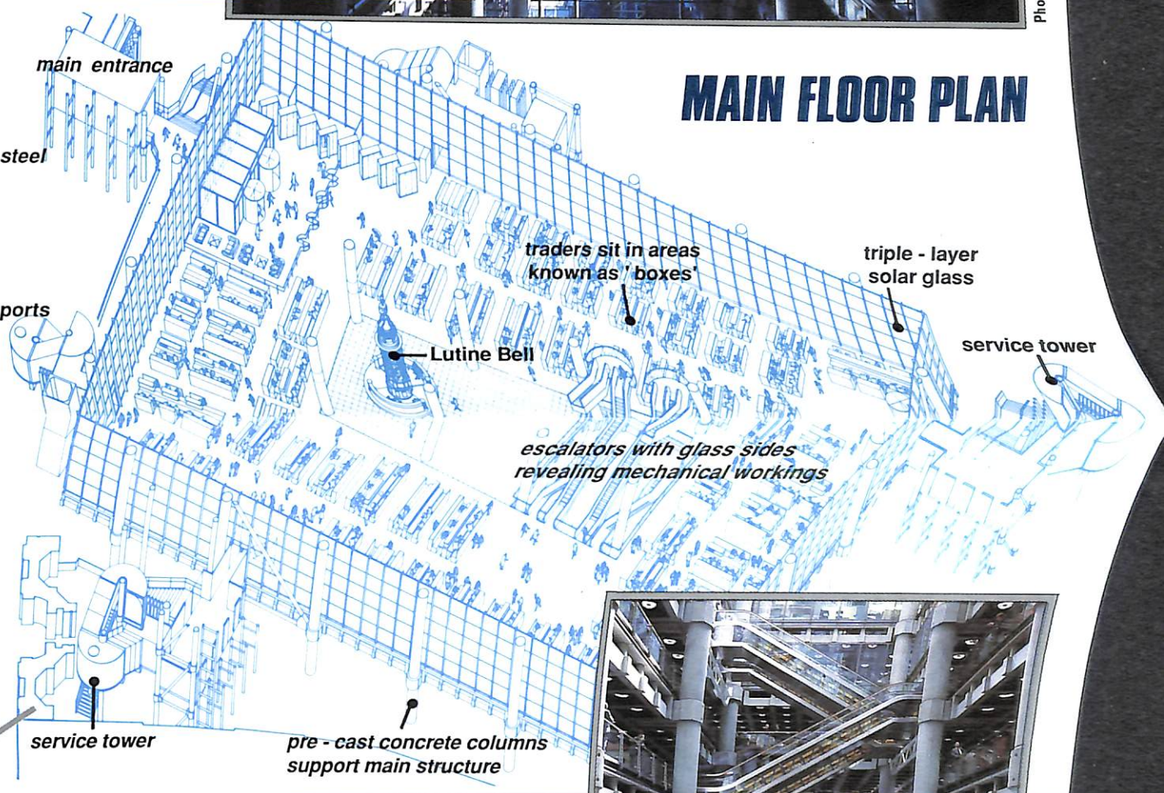


Photographs: Richard Bryant / Arcaid; Zefa; Martin Charles; Richard Rogers Partnership Ltd.

PERSPECTIVE

Lloyd's began in a small city coffee house, and its continued expansion has demanded a building that would be flexible - capable of adapting to changing circumstances well in to the twenty-first century. The atrium - the glass-covered central hall - provides a focus for the whole building. A giant steel framework is supported by concrete columns which extend right up to the vaulted roof.





MAIN FLOOR PLAN

WORKSPACE

Three floors are used by the underwriters, who guarantee potential insurance losses. Other floors are rented out. Each desk has its own 'pod' which controls heat, light and fresh air. Despite computer terminals, TV monitors, and a highly sophisticated telephone system, the human element is crucial - underwriters and brokers can still meet face to face. At the centre of the hi-tech construction is the Lutine Bell, which was salvaged from an eighteenth-century ship. This is rung every time a Lloyd's insured ship sinks.

RHOUSE

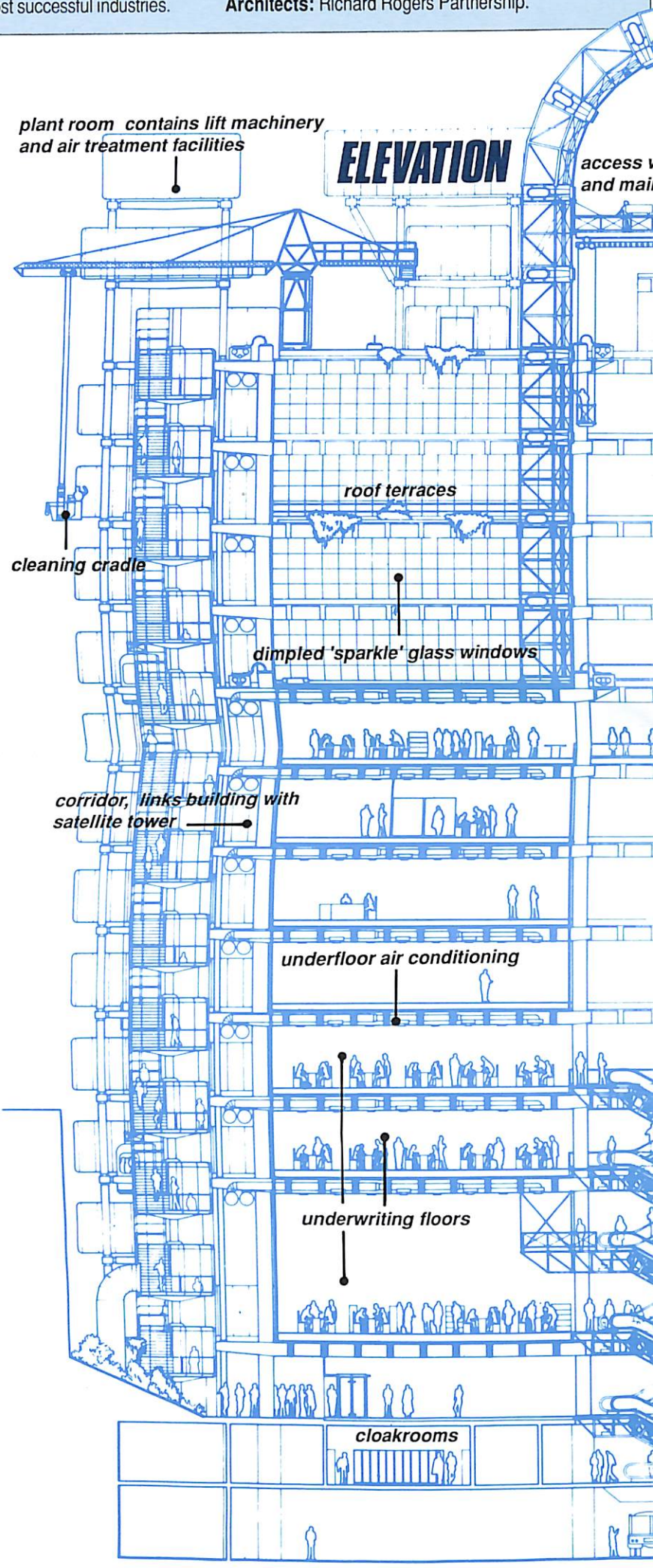
LLOYD'S-CENTRE OF THE WORLD'S INSURANCE MARKET

PROFILE

LLOYD'S OF LONDON

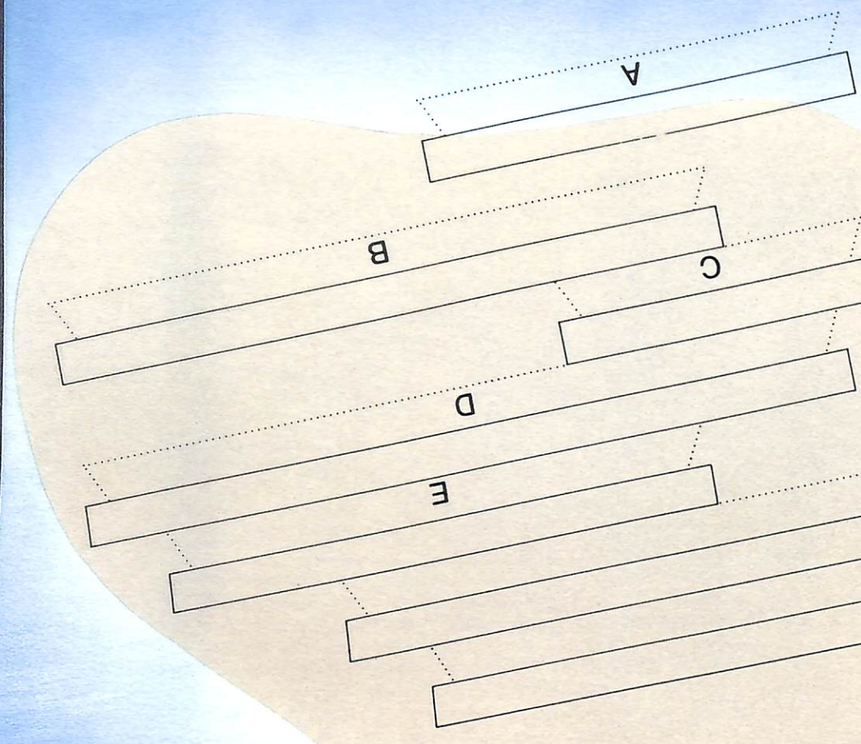
Lloyd's of London, the hub of the world's insurance market, posed a whole new set of problems for city architects and planners alike. The building had to be accommodated at the heart of London's business district, in severely limited space, yet still allow enough room for a 6,000 strong workforce. The solution lay in open plan work spaces, and the minimum number of internal walls. The building of stunningly original design is a power station for one of Britain's most successful industries.

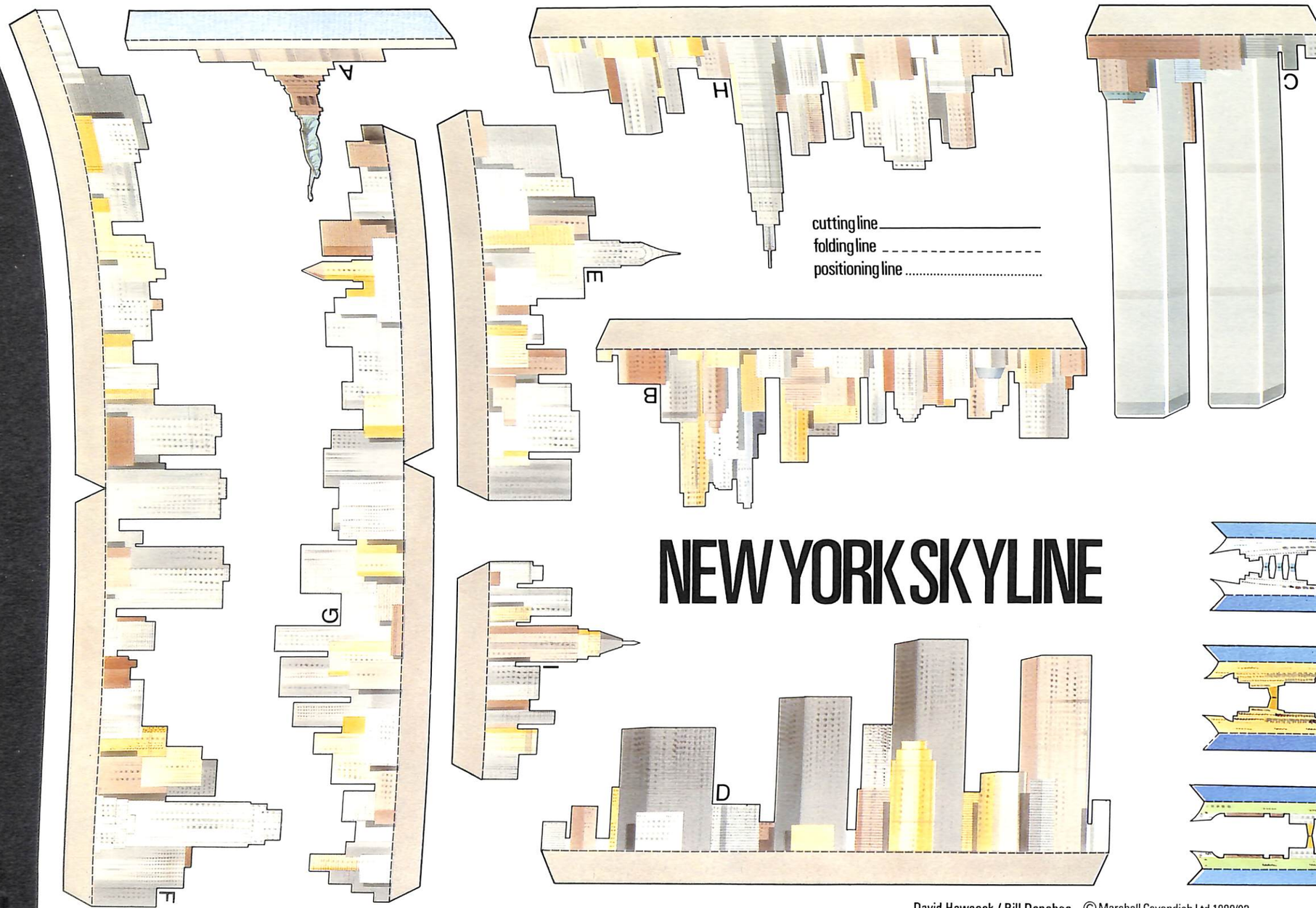
Floor area: 33,500 sq metres.
Height: 70 metres (max.)
External skin: 15,000 sq metres.
Skin materials: glass, steel.
Heating: triple-glazed walls, with heated air circulating between layers.
Total capacity: 6,000 people.
Computer terminals: 600.
Building costs: £157 million.
Construction time: 9 years.
Architects: Richard Rogers Partnership.

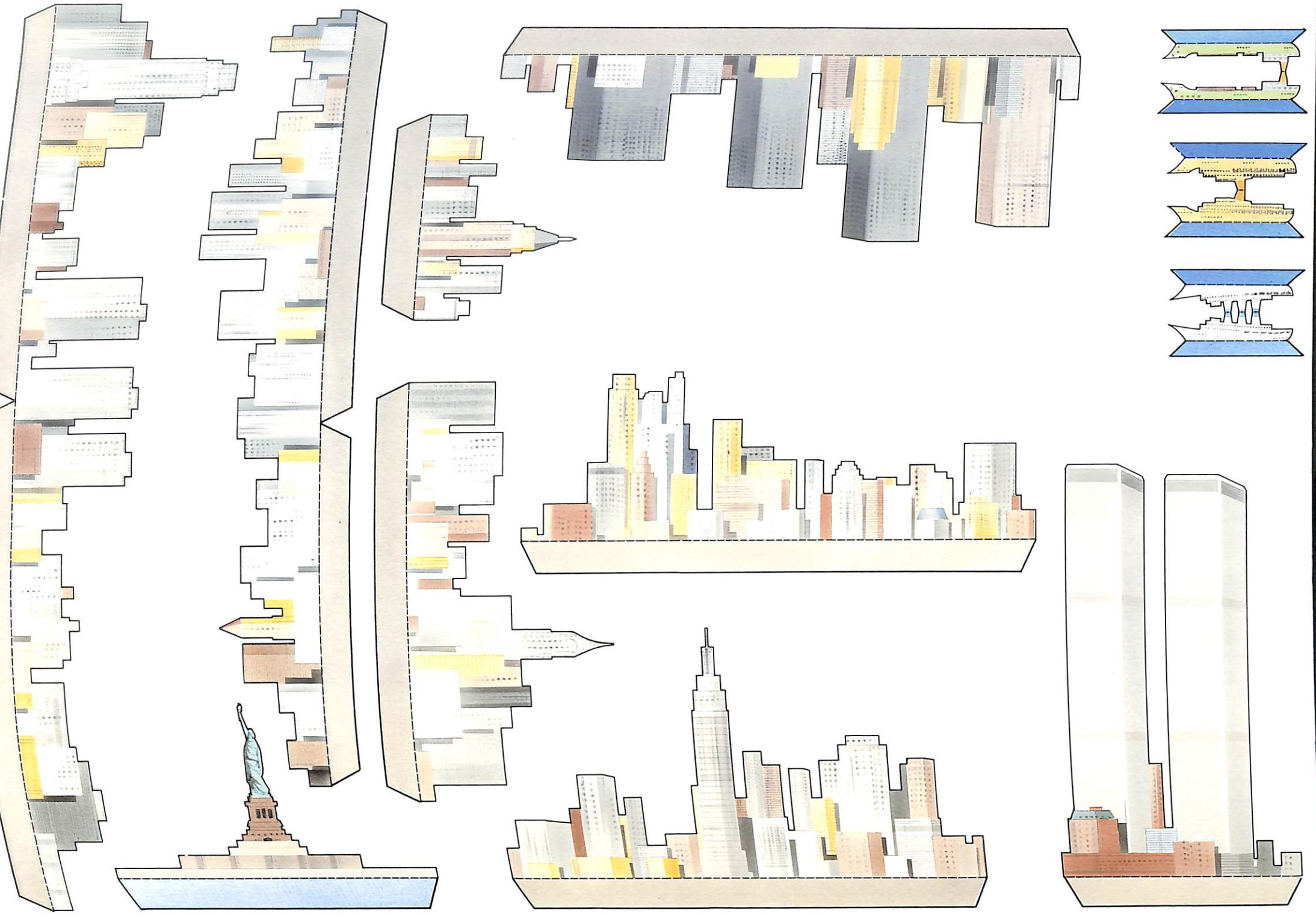


QUEST

POWE







MODEL ASSEMBLY INSTRUCTIONS

NEW YORK SKYLINE

You will need

Scissors • Ruler • Craft knife • Glue

Before cutting out the pieces, score along all broken lines with a blunt edge and ruler to make folding and gluing easier. Use dotted lines as a guide for positioning the pieces and check the ASSEMBLY DIAGRAM before gluing.

NB Younger children will need supervision when using a craft knife.

Base

1 Cut off the base area as indicated on the separate sheet of card.
2 Cut out the rectangular areas indicated by solid cutting lines, using a craft knife and ruler.

Skyline

1 Cut out each group of buildings, and fold tabs under.
2 Starting with building group I, apply glue to the underside edge of the tab, and press into position on the corresponding area I on the base (see ASSEMBLY DIAGRAM).
3 Working your way forward towards the front of the base, glue each group of buildings into their corresponding position.

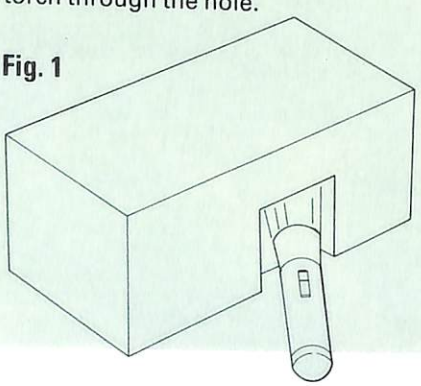
To finish

1 Cut out the three vessels.
2 Glue each one back to back and fold tabs under.
3 Apply glue to underside edges of the tabs and stick each vessel into the harbour area.

Illumination

1 Take an open shoe box and cut a hole, large enough to shine a torch through, on one of the long edges (see Fig. 1).
2 Place the skyline and base on top of the box so that the hole is at the back.
3 To illuminate the skyline, shine a torch through the hole.

Fig. 1

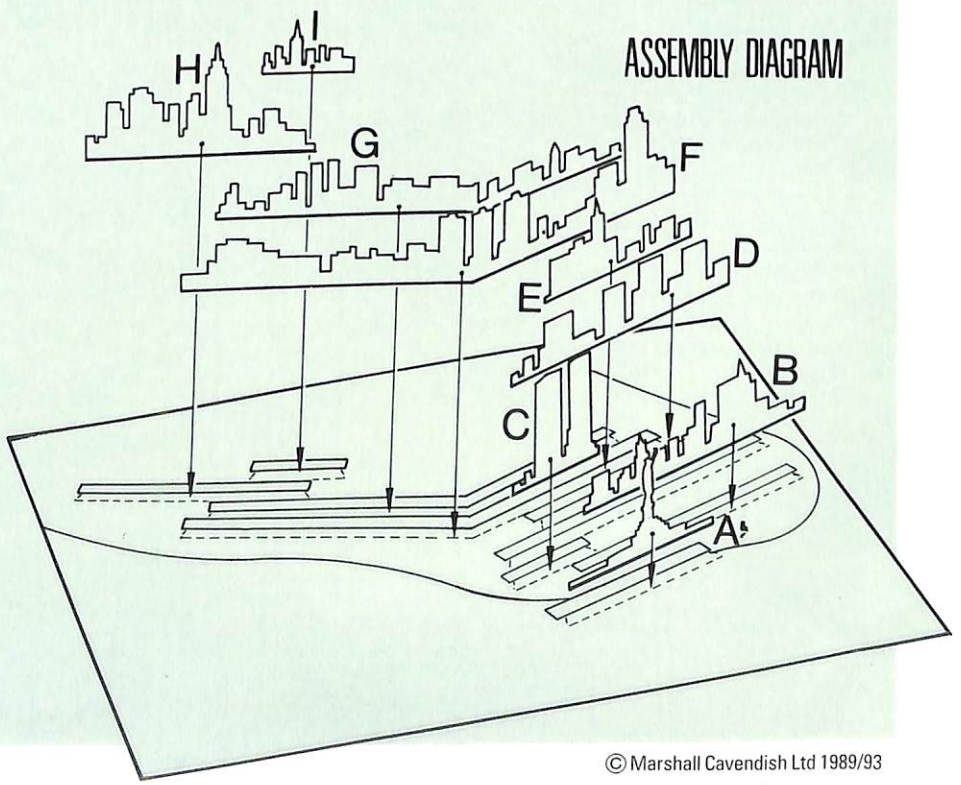


ZEFA

Key to buildings

A The Statue of Liberty – unveiled in 1885, statue and base stand 100 metres high.
B Wall Street area – New York's financial district.
C World Trade Centre – the twin towers are 397 metres high.
D Pan-Am Building – stands 60 storeys high with a heliport on its flat roof.
E Chrysler Building – completed in 1930, it stands 320 metres high and is built in Art Deco style.
F Lower Broadway, New York's theatreland.
G Greenwich Village, the Bohemian quarter.
H Empire State Building – completed in 1931, it stands 102 storeys high.
I Woolworth Building – completed in 1912, it is one of the oldest skyscrapers in New York. It stands 60 storeys high.

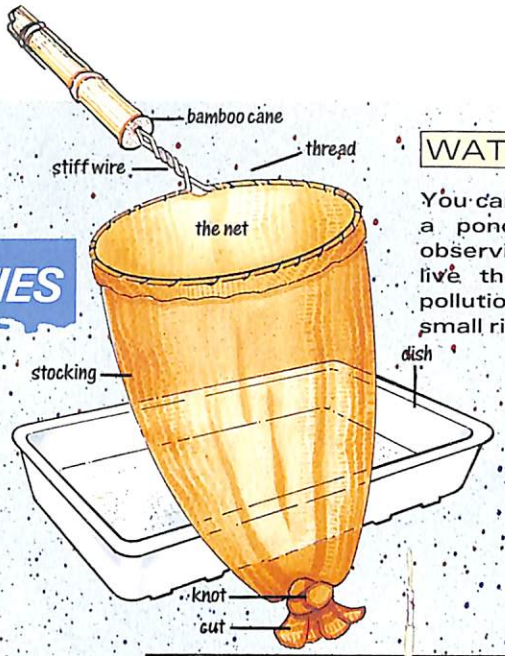
ASSEMBLY DIAGRAM



Q PROJECTS

CITIES AND COMMUNITIES

- How can you check pollution in ponds and streams?
- Make a model dome and discover why this unique structure is so strong.
- Establish an ant colony and observe the daily life of these industrious creatures.



WATER POLLUTION

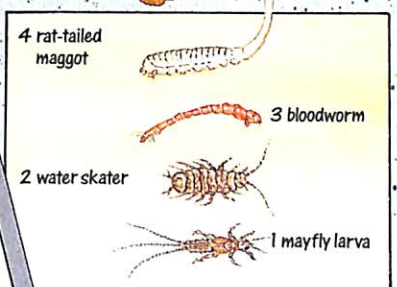
1 2 3 4 5

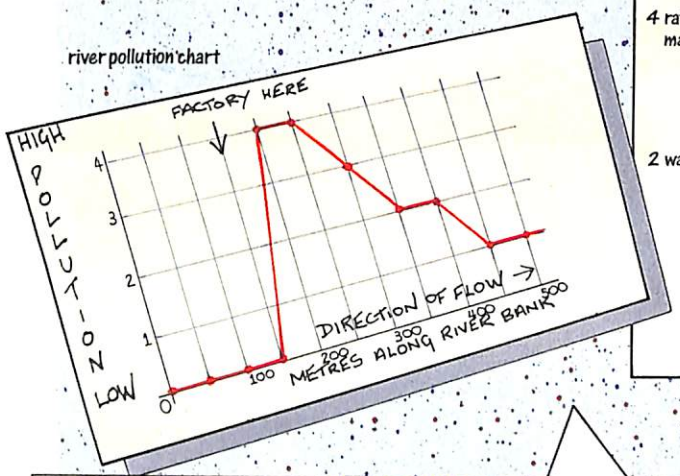
You can judge the degree of pollution in a pond, canal, stream or river by observing the kinds of creatures that live there. If possible, see how the pollution varies at intervals along a small river, and look for likely causes.

The ground may be slippery near the water's edge so, for safety, take an adult with you.

Make a net as shown. You will also need a white dish and a guide showing the various creatures that live in fresh water.

Sweep the net through the water to gather samples at various depths. Transfer your catch to some water in the bowl for inspection. If you find only creatures that breathe air through the surface, it means that high pollution has reduced the water's oxygen content. Fly larvae generally need water with a high oxygen content, so their presence indicates low water pollution.



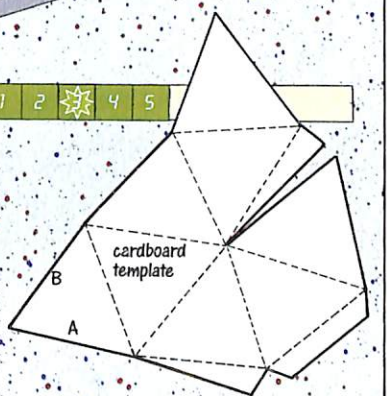


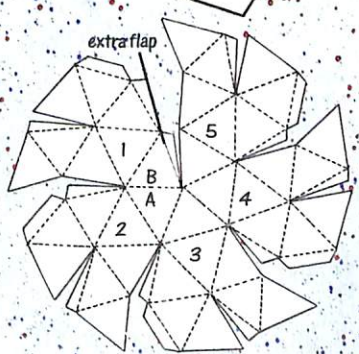
A MODEL DOME

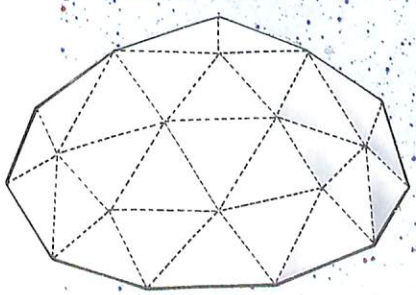
1 2 3 4 5

The dome is an important kind of building structure as it is completely self-supporting.

Trace the template shape on to a piece of card, cut it out and mark sides A and B. Lay the template on a sheet of card and draw around it. Mark sides A and B on the card. Take the template again and lay side A against side B of the section you have just drawn. Trace around the template again and continue until five sections are drawn on the card. Then add an extra flap to the first section. Using a craft knife, lightly score all the lines. Cut out the finished pattern around the solid lines and bend the card downwards along the scored lines. Then apply strong glue to the flaps on one section and stick them under the edges opposite. Glue the other sections in the same way.





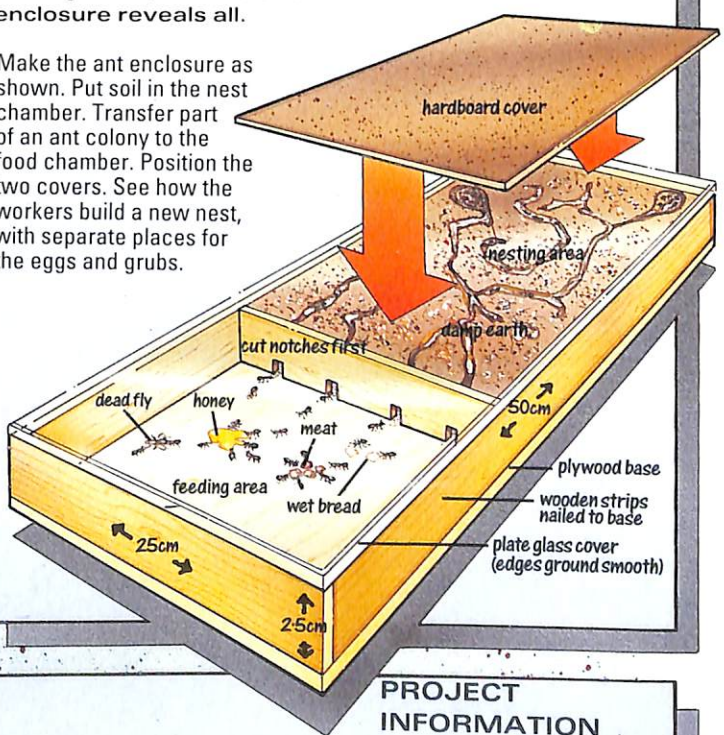


OBSERVING ANT BEHAVIOUR

1 2 3 4 5

Most ant activities take place underground, but this ant enclosure reveals all.

Make the ant enclosure as shown. Put soil in the nest chamber. Transfer part of an ant colony to the food chamber. Position the two covers. See how the workers build a new nest, with separate places for the eggs and grubs.



PROJECT INFORMATION

1 2 3 4 5

Each ***QUEST*** *project has its own difficulty rating: 1 very simple, 2 simple, 3 intermediate, 4 advanced, 5 complicated.*

WARNING!

Parents should supervise experiments involving sharp tools, water and electricity. The publisher can accept no responsibility for injury.